



## **Module 1, Investigation 1: Figure 1**

### **Mount St. Helens, March 1980, before the eruption**



Infrared false color Landsat image of Mount St. Helens and the surrounding area in March 1980. The reddish areas are living vegetation.

Source: Landsat satellite <http://volcano.und.nodak.edu/vwdocs/msh/ov/ovs/ovssl.html>



## **Module 1, Investigation 1: Figure 2**

### **Mount St. Helens, June 1980, after the eruption**



Infrared false color Landsat image of Mount St. Helens and the surrounding areas in June 1980.

Orientation: NNE

Source: <http://volcano.und.nodak.edu/vwdocs/msh/ov/ovssl.html>



## **Module 1, Investigation 1: Figure 3**

### **Aerial photograph of 1980 damage to Mount St. Helens**



Mount St. Helens' 1980 eruption triggered massive debris flows down the north face of the volcano as seen in this photograph.

Source: Cascade Volcano Observatory by Thomas Casadevall [http://denali.gsfc.nasa.gov/research/volc2/volc\\_top.html](http://denali.gsfc.nasa.gov/research/volc2/volc_top.html)



## Module 1, Investigation 1: Figure 4

### Mount St. Helens in December 1999



True color Landsat image of Mount St. Helens in 1999. Some areas have yet to rebound from the 1980 eruption.

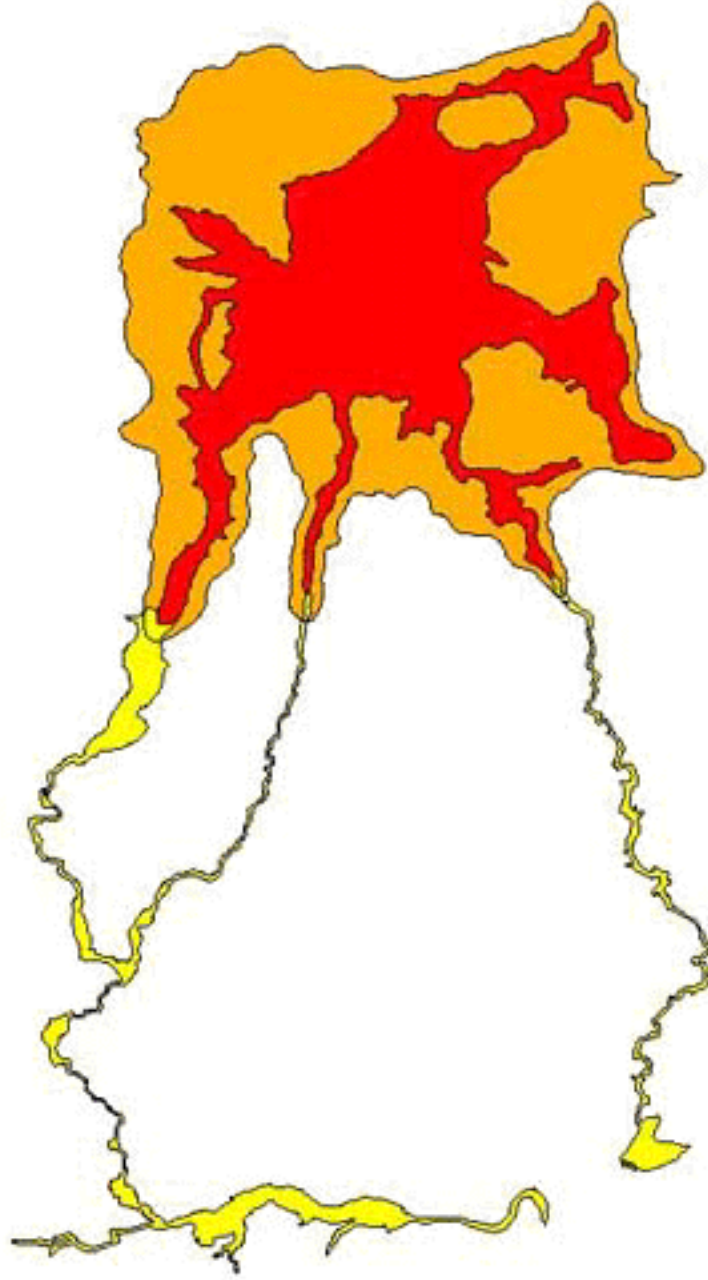
Key:    green = forest  
          white = snow and glaciers  
          grey = areas destroyed by 1980 debris flow which have not recovered

Orientation: NNE

Source: [http://volcano.und.nodak.edu/vwdocs/volc\\_images/img\\_st\\_helens.html](http://volcano.und.nodak.edu/vwdocs/volc_images/img_st_helens.html)

# Module 1, Investigation 1: Figure 5

## Mount St. Helens hazards map



### Hazard Zones



**Zone 1:** Vulnerable to high-density flows, including pyroclastic flows, lava flows, and parts of lahars

**Zone 2:** Area that could be overrun by low-density pyroclastic surges

**Zone 3:** Intermediate and lower reaches of valleys that could be inundated by lahars

Source: E. W. Wolfe and T. C. Pierson. 1995. Volcanic-Hazards Zonation for Mount St. Helens, Washington, 1995. USGS Open-File Report 95-497. <http://vulcan.wr.usgs.gov/Volcanoes/MSH/Hazards/OFR95-497/framework.html>